Privacy and Security in a Networked World
INST-611 | Spring 2017

Instructor**:**   Dr. Jessica Vitak, Assistant Professor, College of Information Studies
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Class time: Wednesdays, 2:00-4:45pm
Class location: HBK 2119 (campus map)
Office hours: Wednesdays, 1-2pm, or by appointment

Catalog Description:
Examining evolving conceptualizations of privacy and security in light of technological developments of 21st century. Analysis of legal, ethical, design, and socially constructed challenges organizations and individuals face when developing privacy and security solutions.

Course Description:
Technological innovations in how individuals, organizations, and governments collect and share personal information have raised myriad concerns regarding how that information can be best protected. In today's highly networked world, individuals must acquire the knowledge and skills to engage with technologies in a safe and secure manner. This course provides an interdisciplinary exploration of the social, legal, ethical, and design challenges that arise when it comes to securing personal information and helping individuals maintain desired levels of privacy at home, work, and everywhere in between.

Student Learning Outcomes:
- Demonstrate broad understanding of major privacy and security challenges faced by organizations, groups, and individuals.
- Define and describe current privacy and security paradigms.
- Describe differences in privacy and security practices across different cultures & contexts.
- Evaluate organizations' privacy and security practices and identify strengths and shortcomings.
- Propose design solutions for various privacy and security issues.
- Identify the social, legal, and ethical implications surveillance policies in the workplace and in public spaces.
- Propose policy changes at the organizational and government level to enhance end-user privacy and security.

Course Materials:

There is no required textbook for this course. That said, you will read a couple books throughout the semester. There should also be one copy of each book at McKeldin as a course reserve (note: you can only take out a reserve for 24 hours). Don't wait to buy these books unless you're going to get a Kindle/eReader version.

- For Week 6: *The Circle* by David Eggers
- For Week 12: *1984* by George Orwell

On ELMS (https://elms.umd.edu/), you will find the course syllabus and schedule, presentation materials, announcements, assignment details, grading rubrics, and .pdfs of assigned readings. Some readings on the syllabus are weblinks and may not appear in the ELMS folder of readings. ELMS also has numerous resources for you to learn more about privacy and security topics: what blogs to read, what people to follow on Twitter, how to find the most relevant research, and so on.

Please read the required readings **before** the date for which they are listed. Getting the most out of readings is an important skill for understanding and responding to policy issues. Whether reading theoretical perspectives, persuasive arguments, or implementation studies, "close reading" is a valuable technique to learn for information policy and graduate school. Terri Senft has put together a wonderful primer on close reading, available here: http://tsenft.livejournal.com/413651.html. Another great resource is Paul Edwards' "How to Read a Book."

Syllabus Change Policy:

This syllabus is a guide for the course and is subject to change with advance notice.

Assignments and Grading:

The grading scale (including corresponding GPA) for the final grade is as follows. Please note: it is not my policy to round grades up, so do not ask me to do so at the end of the semester.

A (4.0) 95-100	B (3.0) 83-86.9	C (2.0) 73-76.9	F (0.0) < 60
A- (3.7) 90-94.9	B- (2.7) 80-82.9	C- (1.7) 70-72.9	
B+ (3.3) 87-89.9	C+ (2.3) 77-79.9	D (1.0) 60-69.9	

Your grade in this class will be based on the following components:

- Class participation (10%)
- Weekly topic leader (10%)
- Conceptualizing privacy and security (10%)
- Privacy policy analysis (15%)
- Designing for enhanced privacy and security (15%)
- Surveillance society (10%)
- Final paper (20%)
- Final presentation (10%)

Note: Grading rubrics are available on ELMS for written/oral assignments.

Class participation (10%): This class is structured to be discussion-centered. I will lead discussions, but you are expected to actively participate. We are a relatively small class and everyone's voice can be heard. This will require that you finish all assigned readings **prior** to each class session. Participation forms an integral part of your own learning experience, as well as that of your classmates. Class participation grades will take into account both the quantity and quality of your contributions to class discussions; however, the quality of your contributions (whether questions, viewpoints, responses to others' questions, etc.) to a meaningful, ongoing discussion will be much more heavily weighted.

Weekly topic leader (10%): By Week 2, each student should review the course topics for the semester and send the professor a ranking of their **top three** choices to be that week's topic leader (for Weeks 3-14). Topic leaders are responsible for the following components:
  (1) Creating a one-page (single-spaced; can be front/back) handout that summarizes the key topics from that week's assigned readings and includes at least three high-level discussion questions for the class (posted to that week's discussion forum by Monday at 12pm, the week of that class).
  (2) Identifying and sharing at least one "current" events (e.g., in last year) news story that is related to the topic through the discussion board for their week (posted to that week's discussion forum by Monday at 12pm, the week of that class).
  (3) Helping to lead that week's class discussion. You should think of yourself as my deputy and be prepared to pick up conversation or help guide conversations among your classmates. Leading class discussion of the article's importance and facilitating conversation in class.

Conceptualizing networked privacy and security (10%)—Due Week 3: The words "privacy" and "security" are common terms in modern society, especially in discussions of technology use. But how do people's individual perceptions of these concepts vary? Understanding the commonalities and differences in our understanding of these concepts is essential to both theory and design.

For this assignment, you should conduct **brief** interviews with four people regarding what privacy and security mean to them. You should attempt to get a diverse sample of perspectives across age, sex, and other demographic characteristics. In a 2-3 page (single-spaced) paper, you should reflect on your own understanding of these concepts (i.e., through pre-existing understanding as well as any new insights derived from the first weeks of class), how your perceptions are similar and different to the people you interviewed, and identify and discuss perceived gaps in understanding. The goal is to get you to "think deeply" about these highly complex concepts and begin to understand how your own background, beliefs, and behaviors influence the way you think about privacy and security.

Privacy policy analysis (15%)—DUE WEEK 8: You will select a website, review its privacy policy and critically analyze it through application of the FTC's five Fair Information Practice Principles (FIPPs): Transparency, Choice, Information Review and Correction, Information Protection, and

Accountability (for a review: https://ethics.berkeley.edu/privacy/fipps). Address areas where the site's policy is strong, where it falls short, and make suggestions for how the website could improve its privacy practices. Finally, consider the ethical and legal ramifications of the policy as it currently stands. Papers should be 3-5 pages (single-spaced) and should cover the following:

- Brief overview of the organization being evaluated and its history (especially anything that relates to privacy and security of user information)
- Analysis of how the site's privacy policy meets (or falls short) for each of the FTC Fair Information Practice Principles
- Evaluate potential ethical/legal issues related to the company's privacy policy and offer recommendations for how to address these issues.

It's probably a good idea to pick a more prominent company than one that is obscure. Consider the types of information that company collects and the types of information people share when visiting the site. Do background research on the company's privacy policy to see how it has been covered in the media.

Designing for enhanced privacy and security (15%)—DUE WEEK 10: Throughout the semester, we will identify a large number of privacy and security-related problems and concerns that consumers have when sharing personal information online. Select one of the issues/concerns from the below list (or get approval from the professor on another topic) and write a 4-6 page paper (single-spaced) that (1) identifies and provides background on the issue, (2) outlines three potential solutions that have already been implemented by organizations, have been proposed by researchers, or are your own, and (3) discuss the benefits and drawbacks of each solution**. At least one solution must be of the student's design.** Images and/or mock-ups of solutions are encouraged but not required and should be included as an Appendix (they do not count toward page requirements). References (minimum 5) should be included on a separate page and do not count toward page requirements.

Potential topics:
- Low tech skills among older users of social media
- Security challenges related to Internet of Things
- Securing data shared through cloud computing technologies
- Organizational security breaches
- The de-anonymization of user identities in online forums, blogs, and news sites
- Privacy paradox (mismatch between desired and actual privacy/disclosure behaviors)
- Big data and ethical research
- Privacy challenges in mobile applications
- Privacy challenges for specific populations (e.g., minors, seniors, disabled, low SES)
- Breaking down barriers between parents and their children regarding sharing data online (i.e., designing tools to help parents and kids approach privacy together)

Surveillance Society (10%)—DUE WEEK 13: This assignment has two components. For Week 12, we're reading the classic surveillance novel, *1984,* and we'll be discussing it in class. Following our

discussion, I want you to be hyper-aware of how you experience surveillance in your everyday life. Write down your experiences of noticing surveillance, both when it is obvious (e.g., the large signs in some convenience stores that say, "Smile, you're on camera!") as well as the less obvious (e.g., red light cameras). Then write a 3-4 page (single-spaced) reflection on how you think 2017 compares to the world as described in *1984.* In what ways have George Orwell's predictions come true? In what ways is modern society better/worse than the fictional world Orwell created? Treat this as a more informal write-up—I'm more interested in you really digging into this than you writing a standard "paper."

Final Paper (20%)—MULTIPLE DEADLINES: In pairs or individually, you will choose a privacy and/or security topic related to the class, define a specific research question related to that topic, and write an **8-10 page paper** (single-spaced) that provides a review of related literature and proposes a research study that would evaluate/analyze the research question. The final paper should look like the front end of a published research article and must include the following components: (1) abstract, (2) introduction, (3) literature review, including one or more research questions that address a gap in the literature, and (4) proposed method to test the research question(s). Make sure you include validated sources to support your argument. A minimum of 10 references are required. You are encouraged to collect your own data or use existing data sources that would allow a full paper draft, but data collection/analysis is not required. PhD students are especially encouraged to propose/conduct research that could be published in the future. **See ELMS for several sample papers from prior semesters.**

You must propose their topic by **Week 5** of the course, including their research question, a brief description of its importance to our understanding of privacy and security in a networked world, and an overview of data collection methods (1 page minimum). If you are planning on conducting more detailed data collections (e.g., with the intent to publish findings), you should submit your proposal earlier to ensure that you can complete data collection and analysis. If publication is an eventual intention for the paper, please talk to me about the project early in the semester for advice and tips, especially if you are planning on conducting research with human subjects.

I will provide feedback on each proposal, with suggestions for ways to expand or narrow your focus (if needed). You will then submit a **1-2 page progress report in Week 11**, to outline completed tasks, work left to do, and any questions or concerns they have. If desired, I will hold one-on-one meetings during the following week to further discuss your project.

You are highly encouraged to submit drafts of any research protocols and versions of their final paper prior to the due date. From years of experience, students who have me provide feedback on their papers (and subsequently implement suggestions) **will** perform better on the assignment. This also ensures there is no confusion between the project expectations and their interpretation.

> Proposal—DUE WEEK 5: 5% of final grade
> Progress Report—DUE WEEK 11: credit (penalty for late/non submission)
> Final Paper—DUE WEEK 15: 15% of final grade

Final Presentation (10%)—DUE WEEK 15: During the final class, you will present a 6-8 minute summary of your proposed study to the class. Your slides and presentation should overview the research question(s) being studied, why it is an important topic in today's networked world, an overview of related research, and your proposed method. Your presentation should be accompanied by slides or other presentation materials. After each presentation, you should be prepared to field questions from the audience.

Review of Graded Material:

I aim to grade all assignments within 1-2 weeks of their due date and post those grades to ELMS. I try very hard to evaluate each assignment fairly, but I can only evaluate what you submit. I don't have the benefit of knowing all of the time and effort you have put into an assignment. Therefore, you need to make that effort stand out.

Because there may be times when I misinterpret what you have written, I am always willing to clarify how I graded your assignment. If you have any questions about a grade you received, you have **two weeks** from receipt of the grade to contact me (in class, through a meeting, or via email) to discuss your grade. After two weeks have passed, that grade is "locked" and I will not re-evaluate it. Before asking me to review an assignment, however, it is important that you carefully read the feedback and grade justification I have provided.

Please also review the grading templates on ELMS before writing each assignment, as this will provide you with a framework through which I will be grading your submission.

Academic Integrity:

Academic dishonesty is a corrosive force in the academic life of a university. It jeopardizes the quality of education and depreciates the genuine achievements of others. Apathy or acquiescence in the presence of academic dishonesty is not a neutral act. All members of the University Community—students, faculty, and staff—share the responsibility to challenge and make known acts of apparent academic dishonesty.

You have a responsibility to familiarize themselves with violations of the Code of Academic Integrity. Among these include:

1. **Cheating:** "Intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise."
2. **Fabrication:** "Intentional and unauthorized falsification or invention of any information or citation in an academic exercise."
3. **Facilitating Academic Dishonesty:** "Intentionally or knowingly helping or attempting to help another to commit an act of academic dishonesty."
4. **Plagiarism:** "Intentionally or knowingly representing the words or ideas of another as one's own in an academic exercise."

For further clarification or information on the Code of Academic Integrity:
 http://www.studenthonorcouncil.umd.edu/code.html

Plagiarism in any course assignment will not be tolerated. Students who submit an assignment containing plagiarized text (including lack of proper attribution, including quoted material with encasing copied text in quotes, copying part of an assignment from another student, or insufficiently paraphrasing content from another source) will have their assignment returned, ungraded, and they will have three (3) days to re-submit the assignment with the plagiarism issues addressed. Students will also receive a penalty of up to 50% of the assignment grade. If a second case of plagiarism is detected, students will automatically receive an F in the class and will be referred to the university for disciplinary action.

Students are encouraged to check their assignments prior to submission using one of the free online plagiarism checkers (e.g., www.grammarly.com).

Attendance and Expectations of Student Participation

This class meets once a week. The course will include lecture, discussion, and group work. It is essential that you participate in the discussions of course materials. Participation means active involvement in class discussions. Students are expected to question, challenge, argue, and discuss issues and topics related to that session's readings.

Regular attendance and participation in this class is the best way to grasp the concepts and principles being discussed. However, in the event that a class must be missed due to an illness, you should make a reasonable effort to notify me in advance of the class. If you are absent more than two times due to illness, please schedule a time to meet with me to discuss plans for make-up work. If you are absent on days when papers are due, you are generally expected to still submit the assignment electronically by the due date. Please see the extensions policy below if extra time is needed due to illness.

Classroom Environment

As a graduate seminar, the classroom environment should be professional and respectful. Discussions should be based on course readings and critical thinking. Issues of policy can involve strongly held beliefs and current political controversies. Remember—your classmates may have different perspectives on issues than you, but they still deserve your respect. As another aspect of respect in the classroom environment, turn off or mute all phones and other communication devices during each class session. If you use your laptop in the classroom, limit the usage of the computer to course-related reasons (i.e., taking notes).

Students with Disabilities

Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Disability Support Services office, and (2) discuss any necessary academic accommodation with their teachers. This should be done at the beginning of the semester.

Learning Assistance

If you are experiencing difficulties in keeping up with the academic demands of this course, contact the Learning Assistance Service, 2202 Shoemaker Building, 301-314-7693. Their educational counselors can help with time management, reading, math learning skills, note-taking and exam preparation skills. All their services are free to UMD students.

Extensions

Timeliness is an essential component of graduate work, and extensions will only be available during personal emergencies. If you need to request an extension, you must discuss the matter **in advance** with me. If an extension is granted, the work must be submitted within the extension period to avoid grade penalties. Unexcused delays in submission of the paper will result in a deduction of a letter grade for each day the paper is late, while unexcused delays in presentations will result in a deduction of a letter grade for each class meeting the presentation is late.

Late Work

Unless approved in advance of the due date, late work will automatically be graded down by one step (i.e., 5%) for each day it is late (unless otherwise noted in the syllabus). For example, an assignment that would normally receive an A- if submitted on time would receive a B if it was submitted two days late. **Assignments more than five days late will not be accepted.**

Emergency Preparedness:

Please see the University's Emergency Preparedness Website (http://www.umd.edu/emergencypreparedness/) for information about the current status of the campus. If a class session needs to be rescheduled, I will e-mail you as soon as possible.

Inclement Weather: In the event of inclement weather, students should check the UMD homepage (umd.edu) or call 301-405-SNOW (7669) to determine if there are delays or closures. Closures and delays will also be sent over the e2 Campus notification system. Follow the link to sign up for alerts: www.alert.umd.edu. Also make sure you either check your UMD email regularly or forward UMD emails to an account you do check regularly, in case the professor emails out a class cancellation.

Course Schedule

Week/Date	Topics, Readings, and Due Dates
Week 1 Jan 25	**Historical overview of privacy and security research** • Warren, S., & Brandeis, L. (1890). The right to privacy. *Harvard Law Review.* • Smith, H. J., Dinev, T., & Xu, H. (2011). Information privacy research: An interdisciplinary review. *MIS Quarterly, 35,* 989-1015. *Recommended: WATCH Online Privacy: How Did We Get Here? (PBS Digital Studios)*
Week 2 Feb 1	**Major paradigms for understanding privacy and security** • Margulis S. T. (2003). On the status and contribution of Westin's and Altman's theories of privacy. *Journal of Social Issues, 59,* 411–429. • Petronio, S., & Durham, W. T. (2015). Communication Privacy Management Theory: Significance for interpersonal communication. In D. O. Braithwaite & P. Schrodt (Eds.), *Engaging theories in interpersonal communication: Multiple perspectives* (pp. 335-347). Thousand Oaks, CA: Sage. • Nissenbaum, H. (2011). A contextual approach to privacy online. *Daedalus, 140,* 32-48. • boyd, d. (2014). *It's complicated: The social lives of networked teens.* New Haven, CT: Harvard University Press. (Chapter 2) **DUE:** Email list of topic choices for weekly discussion leader & course survey.
Week 3 Feb 8	**Privacy and security around the world: Non-US perspectives** • Altman, I. (1977). Privacy regulation: culturally universal or culturally specific? *Journal of Social Issues*, *33*(3), 66-84. • Rosen, J. (2012). The right to be forgotten. *Stanford Law Review, 88-92.* • Movius, L. B., & Krup, N. (2009). US and EU privacy policy: comparison of regulatory approaches. *International Journal of Communication*, *3*, 169-187. • Wu, Y., Lau, T., Atkin, D. J., & Lin, C. A. (2011). A comparative study of online privacy regulations in the US and China. *Telecommunications Policy*, *35*(7), 603-616. **DUE:** Conceptualizing networked privacy and security brief due.
Week 4 Feb 15	**Legal and policy issues in privacy and security** • Solove, D. J. (2007). I've got nothing to hide, and other misunderstandings of privacy. *San Diego Law Review, 44*, 745-772. • Lucas, G. R. (2014). NSA management directive #424: secrecy and privacy in the aftermath of Edward Snowden. *Ethics & International Affairs, 28*, 29-38. • Newman, A. L. (2015). What the "right to be forgotten" means for privacy in a digital age. *Science*, *347*(6221), 507-508.

Week/Date	Topics, Readings, and Due Dates
	• Hirsch, D. D. (2010). Law and Policy of Online Privacy: Regulation, Self-Regulation, or Co-Regulation, The. *Seattle UL Rev.*, *34*, 439-480. *Recommended: Watch: Anonymous - The Story of Aaron Swartz [documentary]*
Week 5 Feb 22	**The privacy (and security) paradox: concerns vs. disclosures** • Palen, L., & Dourish, P. (2003). Unpacking "privacy" for a networked world. *Proc CHI.* New York: ACM • Taddicken, M. (2014). The 'privacy paradox' in the social web: The impact of privacy concerns, individual characteristics, and the perceived social relevance on different forms of self-disclosure. Journal of Computer-Mediated Communication, 19(2), 248-273. • Coen, R., King, J., & Wong, R. (2016). The Privacy Policy Paradox. *Proceedings of the Twelfth Symposium on Usable Privacy and Security (SOUPS 2016)*. USENIX Association (3pgs) • Awad, N. F., & Krishnan, M. S. (2006). The personalization privacy paradox: An empirical evaluation of information transparency and the willingness to be profiled online for personalization. *MIS Quarterly, 30,* 13-28. *Recommended: READ Pew Internet Project report on privacy and information sharing. WATCH Panopticon privacy (Dutch documentary with English subtitles) [Youtube].* **DUE:** Final project proposal
Week 6 March 1	<mark>**No class meeting (Dr. Vitak at CSCW)**</mark> For this week, you should read The Circle by David Eggers and participate in the discussion forum.
Week 7 Mar 8	**Anonymity in a networked world** • Suler, J. (2004). The online disinhibition effect. *CyberPsychology & Behavior, 7,* 321-326. • Narayanan, A. & Shmatikov, V. (2010). Myths and fallacies of "personally identifiable information." *Communications of the ACM, 53*(6)*,* 24-26. • Ohm, P. (2010). Broken promises of privacy: Responding to the surprising failure of anonymization. *UCLA Law Review, 57,* p. 1701. • Kang, R., Dabbish, L., & Sutton, K. (2016). Strangers on your phone: Why people use anonymous communication applications. *Proceedings of the 19th Conference on Computer-Supported Cooperative Work* (pp. 359-370). New York: ACM. *Recommended: WATCH:* Anonymous Documentary (BBC) and Inside the Dark Web documentary. *READ: Unique in the shopping mall: On the reidentifiability of credit card metadata (Science).*

Week/Date	Topics, Readings, and Due Dates
Week 8 Mar 15	**Privacy & security challenges with the Internet of Things (IoT)** • Jason Hong, Toward a Safe and Secure Internet of Things [New America report] • Roman, R., Zhou, J., & Lopez, J. (2013). On the features and challenges of security and privacy in distributed internet of things. *Computer Networks*, *57*(10), 2266-2279. • McGill, A. (2016, October 28). The Inevitability of Being Hacked [The Atlantic] **DUE:** Privacy policy analysis
<td colspan="1" style="background:yellow">**MARCH 22: SPRING BREAK—NO CLASS MEETING**</td>
Week 9 Mar 29	**Privacy & Security by Design** • Martin, K. (2013). Transaction costs, privacy, and trust: The laudable goals and ultimate failure of notice and choice to respect privacy online. *First Monday*, *18*(12). • Cavoukian, A. (2011). Privacy by Design: The 7 Foundational Principles. Implementation and Mapping of Fair Information Practices. • Acquisti, A. (2009). Nudging privacy: The behavioral economics of personal information. IEEE Computer and Reliability Societies, 72-75. • Wang, Y., Leon, P. G., Scott, K., Chen, X., Acquisti, A., & Cranor, L. F. (2013). Privacy nudges for social media: An exploratory Facebook study. *Proceedings of the 22nd international conference on World Wide Web* (pp. 763-770). New York: ACM. **Note:** For more information on privacy by design, see https://www.ipc.on.ca/english/Privacy/Introduction-to-PbD/
Week 10 Apr 5	**Ethical considerations for privacy & security** • Debatin, B. (2011). Ethics, privacy, and self-restraint in social networking. In *Privacy Online* (pp. 47-60). Berlin: Springer. • Zimmer, M. (2010). ''But the data is already public'': On the ethics of research in Facebook. *Ethics and Information Technology, 12,* 313-325. • Coleman, G. (2013). Coding Freedom. Read Part 2 (Codes of Value), pp. 93-160. **DUE:** Designing for privacy & security paper
Week 11 Apr 12	**Surveillance in the workplace** • Smith, W. P., & Tabak, F. (2009). Monitoring employee e-mails: Is there any room for privacy? *Academy of Management Perspectives, 23,* 33-48. • Ball, K. (2010). Workplace surveillance: An overview. *Labor History, 51*, 87-106. • Zuboff, S. (2015). Big other: surveillance capitalism and the prospects of an information civilization. *Journal of Information Technology*, *30*(1), 75-89.

Week/Date	Topics, Readings, and Due Dates
	DUE: Final paper progress report
Week 12 Apr 19	**Surveillance "in the wild"** • Albrechtslund, A. (2008). Online social networking as participatory surveillance. *First Monday, 13*(3). • Fernback, J. (2013). Sousveillance: Communities of resistance to the surveillance environment. *Telematics and Informatics*, *30*(1), 11-21. • *1984* (the book). George Orwell. *Recommended: WATCH Black Mirror, "White Bear" (Season 2, Episode 3) and "Nosedive (Season 3, Episode 1)*
Week 13 Apr 26	**Government surveillance** • Slobogin, C. (2011). Is the Fourth Amendment relevant in a technological age? Vanderbilt Public Law Research Paper No. 10-64. • Stoycheff, E. (2016). Under surveillance examining Facebook's spiral of silence effects in the wake of NSA internet monitoring. *Journalism & Mass Communication Quarterly*, 1077699016630255. • State of surveillance: privacy in Donald Trump's America [Guardian tech podcast] *Recommended: WATCH CitizenFour: Edward Snowden documentary—streaming on HBO (if you don't have access to HBO, there is an abbreviated documentary called Edward Snowden: Terminal F on YouTube)* **DUE:** Surveillance Society paper
Week 14 May 3	**Big data and privacy** • Tene, O., & Polonestsky, J. (2013). Big data for all: Privacy and user control in the age of analytics. *Northwestern Journal of Technology and Intellectual Property, 11,* 242-273. • boyd, d., & Crawford, K. (2012). Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon. *Information, Communication, & Society, 15,* 662-679. • Keller, M., & Neufeld, J. (2015). Terms of Service: Understanding our role in the world of big data. [This is a graphic novel written by staff at Al Jazeera.] • OkCupid Study Reveals the Perils of Big-Data Science [WIRED] *Recommended:* 2013 documentary "Terms and Conditions May Apply"
Week 15 May 10	**Final presentations and course wrap-up** **DUE:** Final paper and presentation